

REMARKS

Request for Interview:

For the reasons discussed below, it is submitted that the application is in condition for allowance. However, if the Examiner feels otherwise, Applicant formally requests in interview and asks that the Examiner contact the undersigned below.

Disposition of Claims:

Claims 1-22, 24, 25, 27-31, 33, 34 and 37-40 are all the claims pending in the application. Of these claims, claims, 1-22, 24, 25, 27-31, 33, 34, 39 and 40 are rejected can claims 37 and 38 are withdrawn.

Claim Rejections Under 35 U.S.C. § 103:

Claims 1-22, 24-25, 27-30, 33-34 and 39-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chou (U.S. patent No. 5,772,905) in view of Kim (U.S. Patent No. 5,064,597). Finally, claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chou in view of Kim as applied to claim 1 above, and further in view of Zapka, et al. (U.S. Patent No. 4,855,197). For the following reasons, Applicants respectfully traverse these rejections.

Arguments:

Claim 1 has been amended to recite that the mass of polymeric material has a two-dimensional or three-dimensional form (*see* claims 2 and 4 for support).

Accordingly, it should be irrefutable that the starting polymeric material of the present process is a solid, because it has a form defined in the space. Such solid material is then softened due to contact with a hot surface region of a mold (that is the only which is heated due to the

generation therein of thermal energy), so that a relief pattern is formed on the surface of the polymeric material.

Let us consider now the rejection of the Examiner based on the combination of teachings of the primary reference, Chou, with the ones of the secondary reference, Kim.

First of all, Applicant emphasizes that — according to Chou - both the mold 10 with the features 16 and the material (PMMA) are first heated at 200°C and only then are put into contact, which contact is maintained until the temperature drops below the T_g of PMMA (see col. 4, lines 65 to col. 5, line 7 of Chou).

Hence — apart from the fact that Chou specifies neither which regions of the mold are heated, nor whether the heat is actually generated therein - the process of Chou is basically different from the one presently claimed. According to Chou, indeed, the PMMA is heated (and thus softened) prior of contacting the mold, so that the softening thereof is certainly not brought about by the successive contact with the mold. As a matter of fact, the contact of the PMMA with the mold marks the beginning of the cooling of the plastics material, whereas according to the present invention it is the contact between plastics material and the mold to start and bring about the heating (=softening) of the former.

Such differences are very meaningful, so that it is even *a priori* questionable that they can be overcome by referring to the teachings of any secondary reference. In any case, the cited Kim reference is certainly of no avail in this respect.

The mold of Kim, indeed, initially interacts with a "molten plastic" and has the purpose of slowly cooling the latter (col. 4, lines 5-13). Hence, the primary function of the mold is that of cooling (*see* in particular the passages 21 in the core 13 for a cooling liquid) and the slight

preheating of the mold surface layer is a mere optional step (col. 4, line 20) which is useful for processing plastics having an high Tg in order to avoid the premature solidification thereof.

Hence, the process of Kim is even more different from the one of the present invention than the one of Chou, because it presupposes that the plastics material is even molten prior to contacting the mold, whereas the plastics material of the present invention is initially solid (having a defined form or shape) and is successively at most softened, without being molten.

In sum - even if Applicant were to admit that the person skilled in the art of the present invention, namely the production of micro- and nano-materials, is aware of the teachings of Kim concerning the production of markedly different macro-articles - such as car hoods (see col. 1, lines 22) — it should be straightforward that such person could not obviously devise the process of the present invention. On the contrary, he would have been induced to operate differently, in particular by completely melting the plastics material to be processed. Vice versa, it would be fully preposterous assuming that the skilled in the art might have derived from Kim only the teaching of heating a surface layer of the mold. The incorporation of this feature in the process of Chou would have been indeed contrary to any logic, because Chou unequivocally provides for heating the plastics material prior to the contact with the mold, which cools and does not heat the former.

In any case, also in this fully illogical case, the combination of the teachings of Chou and Kim would imply a pre-heating of the plastics material prior to the contact with the mold, which is against the gist of the presently claimed invention.

Due to the peculiar structure (very low thickness) of micro- and nano-materials - they assume indeed in a very short time the temperature of other articles (in particular the heating surface layer of the mold) with which they come into contact. Hence, it is sufficient that such

surface layer of the mold is at a temperature $> T_g$ in order to heat immediately the polymeric material at a corresponding temperature, avoiding the need of any pre-heating thereof.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

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